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PATENT TRADEMARK OFFICE



1751

Box PG-PUB
Attorney Docket No. 05725.0408-01
Application No.: 09/832,878
HJ

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:)
Roland DE LA METTRIE et al.) Group Art Unit: 1751
Application No.: 09/832,878) Examiner: Not yet assigned
Filed: April 12, 2001)
)
For: OXIDIZING COMPOSITION AND USES FOR DYEING, FOR
PERMANENTLY RESHAPING OR FOR BLEACHING KERATIN FIBRES

Assistant Commissioner for Patents
Washington, D.C. 20231

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Sir:

REQUEST FOR CORRECTED PATENT APPLICATION PUBLICATION
UNDER 37 C.F.R. § 1.221(b)

On January 17, 2002, the Office published the above-identified application No. 09/319,199 as Publication No. US-2002/0004959-A1. The published application contain mistakes that are the fault of the Office and may be material. Attached hereto is a copy of each relevant page of the originally filed application and a marked-up copy of the corresponding page of the published application containing the mistakes.

A mistake is material when it affects the public's ability to appreciate the technical disclosure of the patent application publication or determine the scope of the provisional rights that an applicant may seek to enforce upon issuance of a patent. See C.F.R. § 1.221(b).

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The mistakes, which are indicated in red ink on the relevant pages of the marked-up copy of the published application attached hereto, are as follows:

1. In paragraph 92, in the eleventh line, the published application recites N,N,-bis(P-hydroxyethyl)-2-methylaniline. However, the originally filed application recites N,N,-bis(β-hydroxyethyl)-2-methylaniline. The error is that the published application recites "P" rather than "β." This mistake, therefore, results in the disclosure of an erroneous compound. Thus, this mistake may be material as it may affect the public's ability to appreciate the technical disclosure of the patent application publication. For at least this reason, this mistake may be material and accordingly should be corrected.
2. In paragraph 132, the published application recites 2,5-dimethylpyrazolo[1,5-a]pyrimidimine-3,7-diamine. The application as originally filed recites 2,5-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine. The error is the recitation of "pyrimidimine" instead of "pyrimidine." This mistake, therefore, results in the disclosure of an erroneous compound. Thus, this mistake may be material as it may affect the public's ability to appreciate the technical disclosure of the patent application publication. For at least this reason, this mistake may be material and accordingly should be corrected.
3. In paragraph 158, the published application recites α-naphthol, whereas the originally filed application recites α-naphthol. This mistake, therefore, results in the disclosure of an erroneous compound. Thus, this

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mistake may be material as it may affect the public's ability to appreciate the technical disclosure of the patent application publication. For at least this reason, this mistake may be material and accordingly should be corrected.

For at least the foregoing reasons, Applicants request that the Office correct the mistakes identified above for which the Office is at fault in the published application, and forward to Applicants a copy of the corrected published application or at least a notification of the occurrence or predicted occurrence of the corrected publication once it has been corrected.

Applicants believe that no Petition or fee is due in connection with this Request. However, if any Petition or fee is due, please grant the Petition and charge the fee to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

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Date: March 18, 2002

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poly-hydroxyalkyl radical, a (C_1-C_4) alkoxy(C_1-C_4)alkyl radical or a C_1-C_4 alkyl radical substituted with a nitrogenous group;

[0089] R_3 represents a hydrogen atom, a halogen atom such as a chlorine, bromine, iodine or fluorine atom, a C_1-C_4 alkyl radical, a C_1-C_4 monohydroxy-alkyl radical, a C_1-C_4 hydroxyalkoxy radical, an acetylamino(C_1-C_4)alkoxy radical, a C_1-C_4 mesylamino-alkoxy radical or a carbamoylamino(C_1-C_4)alkoxy radical,

[0090] R_4 represents a hydrogen or halogen atom or a C_1-C_4 alkyl radical.

[0091] Among the nitrogenous groups of formula (IV) above, mention may be made in particular of amino, mono(C_1-C_4)alkylamino, di(C_1-C_4)alkylamino, tri(C_1-C_4)-alkylamino, monohydroxy(C_1-C_4)alkylamino, imidazolinium and ammonium radicals.

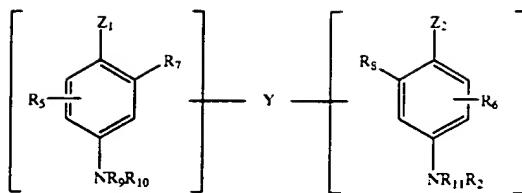
[0092] Among the para-phenylenediamines of formula (IV) above, mention may be made more particularly of para-phenylenediamine, para-toluylenediamine, 2-chloro-para-phenylenediamine, 2,3-dimethyl-para-phenylenediamine, 2,6-dimethyl-para-phenylenediamine, 2,6-diethyl-para-phenylenediamine, 2,5-dimethyl-para-phenylenediamine, N,N-dimethyl-para-phenylenediamine, N,N-diethyl-para-phenylenediamine, N,N-dipropyl-para-phenylenediamine, 4-amino-N,N-diethyl-3-methylaniline, N,N-bis(β -hydroxyethyl)-para-phenylenediamine, 4-amino-N,N-bis(β -hydroxyethyl)-2-methylaniline, 4-amino-2-chloro-N,N-bis(β -hydroxyethyl)aniline, 2- β -hydroxy-ethyl-para-phenylenediamine, 2-fluoro-para-phenylene-diamine, 2-isopropyl-para-phenylenediamine, N-(β -hydroxypropyl)-para-phenylenediamine, 2-hydroxy-methyl-para-phenylenediamine, N,N-dimethyl-3-methyl-para-phenylenediamine, N,N-(ethyl- β -hydroxyethyl)-para-phenylenediamine, N-(β - γ -dihydroxypropyl)-para-phenylenediamine, N-(4'-aminophenyl)-para-phenylene-diamine, N-phenyl-para-phenylenediamine, 2- β -hydroxy-ethoxy-para-phenylenediamine, 2- β -acetylamino-ethoxy-para-phenylenediamine and N-(β -methoxyethyl)-para-phenylenediamine, and the addition salts thereof with an acid.

[0093] Among the para-phenylenediamines of formula (IV) above, para-phenylenediamine, para-toluylene-diamine, 2-isopropyl-para-phenylenediamine, 2- β -hydroxy-ethyl-para-phenylenediamine, 2- β -hydroxy-ethoxy-para-phenylenediamine, 2,6-dimethyl-para-phenylenediamine, 2,6-diethyl-para-phenylenediamine, 2,3-dimethyl-para-phenylenediamine, N,N-bis(β -hydroxy-ethyl)-para-phenylenediamine, 2-chloro-para-phenylene-diamine and 2- β -acetyl-aminoethoxy-para-phenylene-diamine and the addition salts thereof with an acid are most particularly preferred.

[0094] According to the invention, the term double bases is understood to refer to the compounds containing at least two aromatic rings bearing amino and/or hydroxyl groups.

[0095] Among the double bases which can be used as oxidation bases in the dye compositions in accordance with the invention, mention may be made in particular of the compounds corresponding to formula (V) below, and the addition salts thereof with an acid:

(V)



[0096] in which

[0097] Z_1 and Z_2 , which may be identical or different, represent a hydroxyl or $-NH_2$ radical which may be substituted with a C_1-C_4 alkyl radical or with a linker arm Y ;

[0098] the linker arm Y represents a linear or branched alkylene chain containing from 1 to 14 carbon atoms, which may be interrupted by or terminated with one or more nitrogenous groups and/or one or more hetero atoms such as oxygen, sulphur or nitrogen atoms, and optionally substituted with one or more hydroxyl or C_1-C_4 alkoxy radicals;

[0099] R_5 and R_6 represent a hydrogen or halogen atom, a C_1-C_4 alkyl radical, a C_1-C_4 monohydroxy-alkyl radical, a C_2-C_4 polyhydroxyalkyl radical, a C_1-C_4 aminoalkyl radical or a linker arm Y ;

[0100] R_7 , R_8 , R_9 , R_{10} , R_{11} and R_{12} , which may be identical or different, represent a hydrogen atom, a linker arm Y or a C_1-C_4 alkyl radical;

[0101] it being understood that the compounds of formula (V) contain only one linker arm Y per molecule.

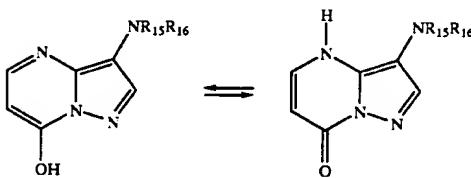
[0102] Among the nitrogenous groups of formula (V) above, mention may be made in particular of amino, mono(C_1-C_4)-alkylamino, di(C_1-C_4)alkylamino, tri(C_1-C_4)-alkylamino, monohydroxy(C_1-C_4)alkylamino, imidazolinium and ammonium radicals.

[0103] Among the double bases of formula (V) above, mention may be made more particularly of N,N'-bis(β -hydroxyethyl)-N,N'-bis(4'-aminophenyl)-1,3-diaminopropanol, N,N'-bis(β -hydroxyethyl)-N,N'-bis(4'-amino-phenyl)-ethylenediamine, N,N'-bis(4-aminophenyl)-tetramethylenediamine, N,N'-bis(β -hydroxyethyl)-N,N'-bis(4-aminophenyl)tetramethylenediamine, N,N'-bis(4-methylaminophenyl)tetramethylenediamine, N,N'-bis-(ethyl)-N,N'-bis(4'-amino-3'-methylphenyl)ethylenediamine and 1,8-bis(2,5-diaminophenoxy)-3,5-dioxaoctane, and the addition salts thereof with an acid.

[0104] Among these double bases of formula (V), N,N'-bis(β -hydroxyethyl)-N,N'-bis(4'-aminophenyl)-1,3-di-amino-propanol and 1,8-bis(2,5-diaminophenoxy)-3,5-dioxaoc-tane, or one of the addition salts thereof with an acid, are particularly preferred.

[0105] Among the para-aminophenols which can be used as oxidation bases in the dye compositions in accordance with the invention, mention may be made in particular of the

- [0120] i is equal to 0, 1, 2 or 3;
- [0121] p is equal to 0 or 1;
- [0122] q is equal to 0 or 1;
- [0123] n is equal to 0 or 1;
- [0124] with the proviso that:
 - [0125] the sum p+q is other than 0;
 - [0126] when p+q is equal to 2, then n is equal to 0 and the groups NR₁₅R₁₆ and NR₁₇R₁₈ occupy the (2,3); (5,6); (6,7); (3,5) or (3,7) positions;
 - [0127] when p+q is equal to 1, then n is equal to 1 and the group NR₁₅R₁₆ (or NR₁₇R₁₈) and the OH group occupy the (2,3); (5,6); (6,7); (3,5) or (3,7) positions.
- [0129] When the pyrazolo[1,5-a]pyrimidines of formula (VII) above are such that they contain a hydroxyl group on one of the positions 2, 5 or 7 α to a nitrogen atom, a tautomeric equilibrium exists represented, for example, by the following scheme:



[0130] Among the pyrazolo[1,5-a]pyrimidines of formula (VII) above, mention may be made in particular of:

- [0131] pyrazolo[1,5-a]pyrimidine-3,7-diamine;
- [0132] 2,5-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
- [0133] pyrazolo[1,5-a]pyrimidine-3,5-diamine;
- [0134] 2,7-dimethylpyrazolo[1,5-a]pyrimidine-3,5-diamine;
- [0135] 3-aminopyrazolo[1,5-a]pyrimidin-7-ol;
- [0136] 3-aminopyrazolo[1,5-a]pyrimidin-5-ol;
- [0137] 2-(3-aminopyrazolo[1,5-a]pyrimidin-7-ylamino)ethanol;
- [0138] 2-(7-aminopyrazolo[1,5-a]pyrimidin-3-ylamino)ethanol;
- [0139] 2-[2-(3-aminopyrazolo[1,5-a]pyrimidin-7-yl)-(2-hydroxyethyl)amino]ethanol;
- [0140] 2-[2-(7-aminopyrazolo[1,5-a]pyrimidin-3-yl)-(2-hydroxyethyl)amino]ethanol;
- [0141] 5,6-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
- [0142] 2,6-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
- [0143] 2,5,N7,N7-tetramethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;

[0144] and the addition salts thereof and the tautomeric forms thereof, when a tautomeric equilibrium exists.

[0145] The pyrazolo[1,5-a]pyrimidines of formula (VII) above can be prepared by cyclization starting with an aminopyrazole, according to the syntheses described in the following references:

- [0146] EP 628559 Beiersdorf-Lilly.
- [0147] R. Vishdu, H. Navedul, Indian J. Chem., 34b (6), 514, 1995.
- [0148] N. S. Ibrahim, K. U. Sadek, F. A. Abdel-Al, Arch. Pharm., 320, 240, 1987.
- [0149] R. H. Springer, M. B. Scholten, D. E. O'Brien, T. Novinson, J. P. Miller, R. K. Robins, J. Med. Chem., 25, 235, 1982.
- [0150] T. Novinson, R. K. Robins, T. R. Matthews, J. Med. Chem., 20, 296, 1977.

[0151] U.S. Pat. No. 3,907,799 ICN Pharmaceuticals.

[0152] The pyrazolo[1,5-a]pyrimidines of formula (VII) above can also be prepared by cyclization starting from hydrazine, according to the syntheses described in the following references:

- [0153] A. McKillop and R. J. Kobilecki, Heterocycles, 6(9), 1355, 1977.
- [0154] E. Alcade, J. De Mendoza, J. M. Marcia-Marquina, C. Almera, J. Elguero, J. Heterocyclic Chem., 11(3), 423, 1974.
- [0155] K. Saito, I. Hori, M. Higarashi, H. Midorikawa, Bull. Chem. Soc. Japan, 47(2), 476, 1974.

[0156] The oxidation base(s) in accordance with the invention preferably represent(s) from 0.0005 to 12% by weight approximately relative to the total weight of the ready-to-use dye composition, and even more preferably from 0.005 to 6% by weight approximately relative to this weight.

[0157] The couplers which can be used are those used conventionally in oxidation dye compositions, i.e. meta-phenyleneediamines, meta-aminophenols and meta-diphenols, mono- or polyhydroxylated naphthalene derivatives, sesamol and its derivatives and heterocyclic compounds such as, for example, indole derivatives, indoline derivatives, benzimidazole derivatives, benzomorpholine derivatives, sesamol derivatives, pyrazoloazole derivatives, pyrroloazole derivatives, imidazoloazole derivatives, pyrazolo-pyrimidine derivatives, pyrazoline-3,5-dione derivatives, pyrrolo[3,2-d]oxazole derivatives, pyrazolo[3,4-d]thiazole derivatives, thiazoloazole S-oxide derivatives and thiazoloazole S,S-dioxide derivatives, and the addition salts thereof with an acid.

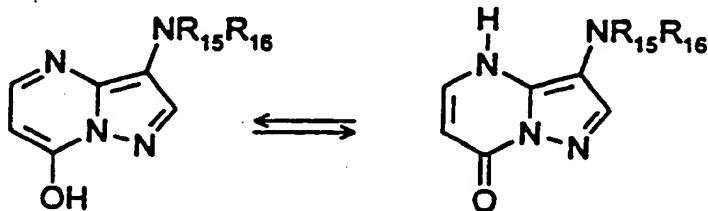
[0158] These couplers can be chosen in particular from 2-methyl-5-aminophenol, 5-N-(β -hydroxyethyl)amino-2-methylphenol, 3-aminophenol, 1,3-dihydroxybenzene, 1,3-dihydroxy-2-methylbenzene, 4-chloro-1,3-dihydroxybenzene, 2,4-diamino-1-(β -hydroxyethoxy)benzene, 2-amino-4-(β -hydroxyethylamino)-1-methoxybenzene, 1,3-diaminobenzene, 1,3-bis(2,4-diaminophenoxy)propane, sesamol, a-naphthol, 6-hydroxyindole, 4-hydroxyindole,

- 2,6-diethyl-para-phenylenediamine, 2,5-dimethyl-para-phenylenediamine, N,N-dimethyl-para-phenylenediamine, N,N-diethyl-para-phenylenediamine, N,N-dipropyl-para-phenylenediamine, 4-amino-N,N-diethyl-3-methylaniline,
5 N,N-bis(β-hydroxyethyl)-para-phenylenediamine, 4-amino-N,N-bis(β-hydroxyethyl)-2-methylaniline, 4-amino-2-chloro-N,N-bis(β-hydroxyethyl)aniline, 2-β-hydroxyethyl-para-phenylenediamine, 2-fluoro-para-phenylenediamine, 2-isopropyl-para-phenylenediamine,
10 N-(β-hydroxypropyl)-para-phenylenediamine, 2-hydroxymethyl-para-phenylenediamine, N,N-dimethyl-3-methyl-para-phenylenediamine, N,N-(ethyl-β-hydroxyethyl)-para-phenylenediamine, N-(β,γ-dihydroxypropyl)-para-phenylenediamine, N-(4'-aminophenyl)-para-phenylenediamine,
15 N-phenyl-para-phenylenediamine, 2-β-hydroxyethoxy-para-phenylenediamine, 2-β-acetylaminoethoxy-para-phenylenediamine and N-(β-methoxyethyl)-para-phenylenediamine, and the addition salts thereof with an acid.
20 Among the para-phenylenediamines of formula (IV) above, para-phenylenediamine, para-toluylene-diamine, 2-isopropyl-para-phenylenediamine, 2-β-hydroxyethyl-para-phenylenediamine, 2-β-hydroxyethoxy-para-phenylenediamine, 2,6-dimethyl-para-phenylenediamine, 2,6-diethyl-para-phenylenediamine,
25 2,3-dimethyl-para-phenylenediamine, N,N-bis(β-hydroxyethyl)-para-phenylenediamine, 2-chloro-para-phenylenediamine and 2-β-acetylaminoethoxy-para-phenylenediamine and the addition salts thereof with an acid are
30 most particularly preferred.

According to the invention, the term double bases is understood to refer to the compounds containing at least two aromatic rings bearing amino and/or hydroxyl groups.

- the sum p + q is other than 0;
- when p + q is equal to 2, then n is equal to 0 and the groups NR₁₅R₁₆ and NR₁₇R₁₈ occupy the (2,3); (5,6); (6,7); (3,5) or (3,7) positions;
- 5 - when p + q is equal to 1, then n is equal to 1 and the group NR₁₅R₁₆ (or NR₁₇,R₁₈) and the OH group occupy the (2,3); (5,6); (6,7); (3,5) or (3,7) positions.

When the pyrazolo[1,5-a]pyrimidines of formula (VII) above are such that they contain a hydroxyl group on one of the positions 2, 5 or 7 α to a nitrogen atom, a tautomeric equilibrium exists represented, for example, by the following scheme:



- Among the pyrazolo[1,5-a]pyrimidines of formula (VII) above, mention may be made in particular of:
- pyrazolo[1,5-a]pyrimidine-3,7-diamine;
 - 2,5-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
 - pyrazolo[1,5-a]pyrimidine-3,5-diamine;
 - 2,7-dimethylpyrazolo[1,5-a]pyrimidine-3,5-diamine;
 - 20 - 3-aminopyrazolo[1,5-a]pyrimidin-7-ol;
 - 3-aminopyrazolo[1,5-a]pyrimidin-5-ol;
 - 2-(3-aminopyrazolo[1,5-a]pyrimidin-7-ylamino)ethanol;
 - 2-(7-aminopyrazolo[1,5-a]pyrimidin-3-ylamino)ethanol;
 - 2-[(3-aminopyrazolo[1,5-a]pyrimidin-7-yl)-(2-hydroxy-25 ethyl)amino]ethanol;
 - 2-[(7-aminopyrazolo[1,5-a]pyrimidin-3-yl)-(2-hydroxyethyl)amino]ethanol;
 - 5,6-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
 - 2,6-dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
 - 30 - 2,5,N7,N7-tetramethylpyrazolo[1,5-a]pyrimidine-3,7-diamine;
- and the addition salts thereof and the tautomeric forms

diphenols, mono- or polyhydroxylated naphthalene derivatives, sesamol and its derivatives and heterocyclic compounds such as, for example, indole derivatives, indoline derivatives, benzimidazole derivatives, benzomorpholine derivatives, sesamol derivatives, pyrazoloazole derivatives, pyrroloazole derivatives, imidazoloazole derivatives, pyrazolo-pyrimidine derivatives, pyrazoline-3,5-dione derivatives, pyrrolo[3,2-d]oxazole derivatives, 10 pyrazolo[3,4-d]thiazole derivatives, thiazoloazole S-oxide derivatives and thiazoloazole S,S-dioxide derivatives, and the addition salts thereof with an acid.

These couplers can be chosen in particular from 15 2-methyl-5-aminophenol, 5-N-(β -hydroxyethyl)amino-2-methylphenol, 3-aminophenol, 1,3-dihydroxybenzene, 1,3-dihydroxy-2-methylbenzene, 4-chloro-1,3-dihydroxybenzene, 2,4-diamino-1-(β -hydroxyethoxy)benzene, 2-amino-4-(β -hydroxyethylamino)-1-methoxybenzene, 1,3-20 diaminobenzene, 1,3-bis(2,4-diaminophenoxy)propane, sesamol, α -naphthol, 6-hydroxyindole, 4-hydroxyindole, 4-hydroxy-N-methylindole, 6-hydroxyindoline, 2,6-dihydroxy-4-methylpyridine, 1H-3-methylpyrazol-5-one and 1-phenyl-3-methylpyrazol-5-one, and the addition 25 salts thereof with an acid.

When they are present, these couplers preferably represent from 0.0001 to 10% by weight approximately relative to the total weight of the ready-to-use dye composition, and even more preferably 30 from 0.005 to 5% by weight approximately relative to this weight.

In general, the addition salts with an acid which can be used in the context of the dye compositions of the invention (oxidation bases and 35 couplers) are chosen in particular from the hydrochlorides, hydrobromides, sulphates, tartrates,